IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	George R. Borden IV		Group Art Unit:	2621
Serial No.:	10/821,294		Examiner:	Czekaj
Filed:	April 9, 2004		Customer No.:	55648
Title:	METHOD OF SELECTING AND GENERATING FEEDBACK IN OBJECT TRACKING SYSTEMS			

APPELLANT'S BRIEF

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January 31, 2009

Mail Stop APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

BACKGROUND

This brief is in furtherance of the Notice of Appeal, filed in this case on January 29, 2009.

The fees required under 37. C.F.R. § 41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefore, have been dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF. Because this appeal was taken from a non-final office action made in response to a prior appeal of the applicant, no fees are due.

This brief comprises these subjects under the headings, and in the order, set forth below:

The final page of this brief bears the practitioner's signature.

REAL PARTY IN INTEREST

The real party in interest in this appeal is Sharp Laboratories of America, Inc., assignee of the captioned application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

    A.   TOTAL NUMBER OF CLAIMS IN THE APPLICATION

        There are 3 claims currently pending in the application.

    B.   STATUS OF ALL CLAIMS

        Claims canceled: 1-26, 30-32

        Claims withdrawn: None

        Claims pending: 27-29

        Claims allowed: None

        Claims objected to: None

        Claims rejected: 27-29

    C.   CLAIMS ON APPEAL

        Claims 27-29 are on appeal.

        A copy of the claims on appeal is set forth in the Claims Appendix to this Brief.

STATUS OF AMENDMENTS

No amendment was filed after final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter of the present application is directed to a method of advising an operator of an object tracking system (e.g., within a visual surveillance system) of the performance of that system. The claimed subject matter is most broadly recited in independent

claim 27, which recites two claimed steps. The first claimed step is monitoring a level of confidence that the tracking system is tracking a target. *See, e.g.* Specification at p. 7 lines 10-11. The second claimed step is increasing magnification of an image visible to the operator in response to a decrease in the level of confidence. *See Id.* at p. 7 lines 11-12.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The ground of rejection presented for review is whether claims 27-29 are: (1) whether claims 27-29 are unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter; and (2) whether claims 27-29 are unpatentable under 35 U.S.C. §103(a) over Abe, U.S. Pat. No 5,473,369 in view of Yu., U.S. Pat. No. 5,434,621.

ARGUMENT

I.   Rejection under 35 U.S.C. § 101

The Examiner's rejection is in contradiction to the recent Federal Circuit decision, *In re Bilski*. Independent claim 27 claims a "method of advising an operator of the performance of an object tracking system" and includes two limitations. The first is "monitoring a level of confidence that said tracking system is tracking a target." The second is "*increasing magnification of an image visible to said operator* in response to a decrease in said level of confidence." Bilski is directly on point:

> [O]ne of Abele's dependent claims [was] drawn to patent-eligible subject matter where it specified that 'said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner." The data clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent eligible.
> We further note for clarity that the electronic transformation of the data itself into a visual depiction in Abele was sufficient; the claim was not required to involve any transformation of the underlying physical object that the data represented. We believe this is faithful to the concern the Supreme

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Court articulated as the basis for the machine or transformation test, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

In re Bilski, slip opinion at p. 26.

In the present case, claim 27 includes a limitation of increasing magnification of a displayed image, i.e. in the worst case scenario, the data of an image is manipulated to display the physical objects depicted therein at a larger scale. The applicant notes that the alternate possibility, of adjusting the zoom range of a camera is within the boundaries of 35 U.S.C. § 101 because an actual apparatus is being manipulated. In either instance, claim 27, as well as its dependent claims 29 and 29 are patentable.

The applicant therefore requests that the Examiner's rejection of claims 27-29 under 35 U.S.C. § 101 be reversed.

II. Rejection of claims 27-29 under 35 U.S.C. § 103(a

The Examiner rejected claims 27-29 under 35 U.S.C. § 103(a) as being obvious in view of the combination of Abe and Yu. Independent claim 27, from which the remaining claims each respectively depend, recites the limitations of "monitoring a level of confidence that said tracking system is tracking a target" and "increasing magnification of an image visible to said operator in response to a decrease in said level of confidence." The Examiner alleges that Abe discloses the first of these two limitations, Yu discloses the second, and that one of ordinary skill in the art would modify Abe using Yu so as to arrive at the limitations of claim 27. The latter two of these contentions are incorrect.

First, the Examiner misreads the disclosure of the primary reference, Abe. Abe discloses that, when initially targeting an object to be tracked, the boundaries of that object have to be determined. *See* Abe at col. 9 line 59 – col. 10 line 15. Specifically, Abe discloses a region-designating frame in which a user targets an object to be tracked, after which, specified equations are applied that analyze color and spatial information to identify the boundaries of the object to be tracked, or objects to be tracked in the event that the designated object can only be automatically distinguished by non-contiguous portions. *See, e.g.* Abe FIG 17.

The Examiner reads this disclosure as monitoring a confidence that an object is being tracked. This is incorrect; rather, this disclosure merely makes an initial determination as to what, in the image, is to be tracked.

Also, the Examiner's citation to Abe as disclosing "altering magnification of an object" in response to changes in confidence that the object is being tracked is incorrect. This portion of the specification discloses that magnification changes are made merely to keep the object the same size in the viewfinder "for convenience of use." *See* Abe at col. 12 lines 5-15. The Examiner is likely misinterpreting the disclosure in this paragraph that driving signals which control the camera *body and* lens cope with "any change in the size of the object *as well* as to automatically track the object." (emphasis added). Not only is the Examiner mistakenly assuming that this discloses using the zoom function for tracking (as opposed to rotating the camera body to track and the zoom to maintain a constant size), but the Examiner fails to distinguish between adjusting the zoom of an object to regain confidence that an object is being tracked (what is claimed) and adjusting zoom to keep tracking something that you assume is already being tracked (how the Examiner interprets Abe).

Second, the Examiner's assertion that Yu teaches increasing the magnification of a lens in response to a decrease in confidence that an object is being tracked is also false. Yu discloses a photographic apparatus that automatically maintain the size of a subject in a picture frame, even as the target moves toward or away from the photographer. To achieve this desired result, Yu uses the auto-focus (AF) motor of a camera (still or video) in conjunction with data from the zoom level to calculate the distance to the subject once the photographer initially focuses on the subject. Specifically, knowing the AF motor position (what Yu calls the AF count) and the current magnification level, the distance to the in-focus plane, as well as the depth of field can be calculated. As the AF motor continually adjusts to maintain focus on a moving subject, the change in distance from the original position can be calculated, and the magnification level automatically increased or decreased so as to maintain the size of the subject in the field of view of the lens.

With this in mind, the Examiner's assertions regarding the teachings of Yu are easily dispensed with. The system of Yu assumes (and in fact only works if) the camera's AF system is *constantly* directed on the target, due to the user's *manual* movement of the camera. In other words, since Yu always presumes that the target is in fact, being tracked, Yu cannot be considered to be monitoring a "confidence level" that a target is being tracked and adjusting the magnification accordingly. Rather, the change in magnification is in response to the detected movement (towards or away from the camera) of an object *being* tracked, not any uncertainty as to *whether* the target is being tracked.

The Examiner seems to, at least implicitly, recognize this issue, arguing that the "confidence level" with respect to Yu is "the comparison of the focus count which indicates that the object is moving away or the confidence level is decreasing." Even setting aside the question

of whether an "object moving away" can be considered a "confidence level", it is certainly not the confidence level that the Examiner alleges is taught by Abe at col. 10 lines 2-25. For the Examiner's rejection to make sense, the term "confidence level" must be read consistently between the primary and secondary reference. The Examiner's rejection does not do this, instead trying to redefine the term "confidence level" midstream so as to cobble together two disparate techniques and ostensibly arrive at the claimed invention. An obviousness rejection cannot be based on this type of inconsistency.

The Examiner may be making a logical fallacy in citing the combination of Abe and Yu. Both references teach automatically adjusting magnification of an object that is being tracked as it moves towards or away from a user, so as to maintain the aesthetic quality of an image (Yu) or convenience (Abe). The Examiner likely reasons that because an object getting smaller in a picture becomes more difficult to track, it is reasonable to zoom in on an object if you are no longer sure that you are tracking the object. The flaw in this reasoning twofold. First, it reverses cause and effect; one effect of Yu's magnification may be to prevent degradation in confidence that an object is being tracked, but that does not necessarily imply that if one is not confident that an object is being tracked, one should increase magnification. After all, as indicated by the reference cited in the Examiner's most recent rejection, Loveland, the opposite recommendation is what is universally recommended in the prior art. The applicant notes that references such as Loveland, though no longer cited by an Examiner in a rejection, are nonetheless relevant to the present inquiry because they indicate that the common prior art methods teach against the claimed invention, hence any prior art reference allegedly including a contrary teachings needs to be explicit.

In this vein, the asserted effect of maintaining a level of confidence that an object is being tracked (due to increasing magnification) is not *actually taught* in either of the cited reference. Though the Examiner argues that the combination of Abe and Yu *could* be combined to achieve that asserted, desirable effect, it is the teachings of the prior art references that are relevant to the obviousness inquiry, and not whether the steps or elements of disparate references can or cannot be physically combined. Given that the teachings of the prior art as a whole indicate that the response to a diminished confidence that an object is being tracked should be to decrease magnification on the assumption that the object has moved outside the boundaries of a frame, that teaching is not overcome by an at-best ambiguous reference that only discloses adjusting magnification of an object being tracked to maintain a constant size of the tracked object in the camera.

For the forgoing reasons, the applicant respectfully requests that rejection of claims 27-29 under 35 U.S.C. § 103(a) be reversed.

CONCLUSION

The Examiner's respective rejections of claims 27-29 should be reversed, and the claims should be found patentable.

Respectfully submitted,

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CLAIMS APPENDIX

1-26. (canceled)

27.   The method of advising an operator of the performance of an object tracking system comprising the steps of:

    (a)   monitoring a level of confidence that said tracking system is tracking a target; and

    (b)   increasing magnification of an image visible to said operator in response to a decrease in said level of confidence.

28.   The method of claim 27 wherein said magnification is changed incrementally as said level of confidence decreases.

29.   The method of claim 28 wherein said magnification is increased when said confidence level falls below a first threshold and decreased when said confidence level falls below a second threshold less than said first threshold.

30-32 (canceled).

EVIDENCE APPENDIX:

None.

<u>**RELATED PROCEEDINGS APPENDIX:**</u>

None.